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THE GENESEE FARMER.

SATURDAY, SEPTEMBER 22, 1838.

THE PHILOSOPHY OF VEGETATION.

Perhaps there are few subjects of so much interest to the farmer as a proper understanding of the causes and agents of vegetable nutrition. The economical application of manures, the propriety of their use, the value of a system of rotation in crops—in short, the whole philosophy and practice of farming—may be said to be depending on this point. Is there but one substance in nature that constitutes the proper food of plants? or are they endowed with omnivorous powers, and capable of finding food in all things presented to them? If there is but one kind of food, what is that one?—and if there are many, what is their state when appropriated by the plants? These are a few of the subjects that enter into a consideration of the food of plants; and the opinions of writers on vegetable phisiology have been as various and conflicting as the substances which chemical analysis has detected in plants have been numerous.

Some have maintained that the actual nourishment was derived from the air; some that water alone constituted the food of plants; others have asserted that the growth was owing to a single substance, and that the earths which are present in plants, as well as most of the salts, are to be considered as merely accidental, not being necessary to the formation or growth of the vegetable: the only substance which all are agreed in considering absolutely indispensable, since it is a large and apparently essential part of every plant, is carbon. If the plant derives its support from the air, then the carbonic gas which exists in it must be the source of supply: if taken into circulation by the roots, then the carbon must exist in some soluble form, since the greatest chemical skill has never been able to induce a plant to take up the minutest portion of insoluble carbon, or detect its presence as an operation of nature.

Amidst these conflicting sentiments, adverse and contradictory as they may at first seem, we think that the opinions of men of science are verging to an agreement on one or two of the most essential points; and what we consider as of quite as much consequence, these opinions very nearly coincide with the actual experience of the farmer, and give a strong support to the modern theories and practice of agriculture.

We believe that Klaproth was the first to discover and announce to the world the existence of a peculiar substance, which he considered of importance to vegetable organization from its analysis, and which, from his first finding it in the bark of the elm, he denominated *ulmin*. Bracounet continued the investigation commenced by Klaproth, and found there were few substances of vegetable origin in which ulmin did not exist, tracing it in considerable quantities in sawdust, starch, sugar, seeds; and indeed in nearly all plants it was present. Berzelius, the great Swedish chemist, embraced it in his researches, and extending them to the soil, found that it existed in the earth in abundance, as well as in the bark and ligneous substance of trees. From its presence in the earth, and the probability that it was from thence that plants derived it, Berzelius distinguished it by the name of *geine*, a word derived from the Greek word signifying the earth. Sprengel and Bouillay have discovered that it is a leading and efficient principle in vegetable and animal manures, and hence they have denominated it *humire*, a name by which it has been most generally known, though scientific men are appearing to incline to return to the nomenclature of Berzelius. The justly celebrated chemist and observer, Raspail, in his late work on Organic Chemistry, translated by Dr. Henderson, denies the existence of *geine* or *humire* as a proximate principle in soils, and says, "it will be easy to see that all these phenomena, (described by Berzelius, Sprengel and others,) apparently so varied, which have given room for the discovery of so many substances analagous to ulmin in their nature, are essentially nothing but a development of carbon." The name, however, we consider of mere secondary importance, and whether it is called *ulmin*, or *humire*, or *geine*, or *carbon*, it cannot effect the results which seem to flow from the substance and render it one of the most important agents in vegetable nutrition, if not the only one yet known.

Geine, says Professor Hitchcock, in his late admirable Report on the Economical Geology of Massachusetts, "when wet, is a gelatinous mass, which on drying, becomes of a deep brown or almost black color, without taste or smell, and almost insoluble in water; and, therefore, in this state, incapable of being absorbed by the roots of plants. Yet after the action of alkalis upon it, it assumes the character of an acid, and unites with ammonia, potassa, lime, alumina, &c., and forms a class of bodies called *geates*, most of which are soluble in water, and therefore capable of being taken up by the plants; and it is in the state of *geates* that this substance, for the most part, exists in soils."

Silica, alumina, lime, magnesia, oxide of iron, potash, soda, and sulphuric and phosphoric acids, may be considered the inorganic principles of vegetables, and analysis detects their presence in the most of them; hence they will be found the constituents of all soils, for the most part existing as salts—for instance, carbonate of lime, sulphate of lime, muriate of lime, phosphate of lime, &c. Neither the earths nor the salts can be considered the proper food of plants, as both these may be present, and yet a weak or imperfect vegetation, or none at all, be the result. But if the combination of these salts with humus or geine has taken place, then, in connexion with the earths, vegetation will be vigorous, and the proper functions of plants fully developed. In the language of Dr. Dana, it would seem then "that the earths are the plates, the salts the seasoning, the geine the food of plants."

The 'Soluble Vegetable Extract,' of Davy and Chaptal, produced from carbonaceous mold, is the soluble *geine* of Berzelius, and the insoluble matter of the mold spoken of by Chaptal would seem to be the insoluble geine or humus of Berzelius and Sprengel. Geine is, therefore, the decomposed organic matter in the soil. When the result of recent decomposition, it is abundantly soluble in water; the action of the atmosphere converts this soluble matter into solid humus or geine, 'still partially soluble in water, and wholly soluble in alkali.' Soluble geine, and in this state only does it become the food of plants, acts neither as acid nor alkali. It is coverted into a substance having acid properties by the action of alkali, and in this state combines with earths, alcalies and oxides, forming neutral salts, soluble in water, such as magnesia, lime, &c., and thus matter insoluble of itself is prepared for the food and nutrition of plants. It appears to have been satisfactorily established by late chemical researches, that this substance forms the nourishing basis of all soils, and that they are fertile or infertile exactly in proportion to the soluble geine they contain, or the application of materials capable of converting the insoluble into that which is soluble.

If there are any facts certain in agriculture, it is, that a soil composed chiefly of one of the earths, either sand, lime, or clay; or one that contains an excess of salts, as pure manures; are always barren. Plants may indeed exist to a limited extent, but they will be weak and without fruit. To these earths add geine, and a perfect healthy vegetation will be the result. The great essentials of vegetation then are the earths, salts, and geine, and their degree of fertility will mainly depend on the proportion with which the last is mixed with the first.

Every discovery in experimental philosophy—every advance in vegetable chemistry, seems to render more clear the great truth, that nature's works, though apparently complex, are carried on in the simplest manner, and with the fewest possible agents. The slight shades of difference found to exist in the constituents of most dissimilar substances, such as starch, lignin, sugar, and some of the acids, prove that slight causes produce powerful modifications of matter, and render it probable that the original kinds of matter are less numerous than have been usually supposed. All investigations point to an agency that pervades all the forms of matter, and by an arrangement of atoms consequent on vitality produces all the varied forms of vegetable and animal nature. This agent, under the name of caloric, galvanism, or electro magnetism, is constantly at work modifying, changing, combining, decomposing, and arranging. To it we owe aggregation and cohesion—to its subtle and diffusive energy, all growth and circulation—and may it not be considered as certain that the earths and salts are a magnificent voltaic battery, ever ready for action when moistened with water, and thus reviving the dormant vitality of the seeds submitted to its influence. But though this vitality may be revived, and the slumbering energy of this germ of the future vegetable be restored to activity, it is clear that the circulation will produce little or no effects in inducing growth, unless matter suitable for absorption and after-deposition, is provided for the newly awakened energies and action. This is furnished by geine, and is presented in a state the most suitable for the circulating juices of the plant. Taken up by the roots, or absorbed from the air, it is converted into lignin or woody substance by deposition and æration, and thus becomes a new plant, prepared to run its course of growth, maturity and decay.

Taking this simple, and we think philosophical view of the subject, the reasons of many farming processes, hitherto but little understood, are made more plain; and various improvements suggested and made practicable. If a soil on analysis contains an undue proportion of any one of the earths, the evil can be remedied by combining them in the proper manner, by adding what is deficient until the balance is restored. But the fact, that the earths themselves, uncombined with salts or geine, are never fertile, and that all the combinations of which they are capable, can never be made to support vegetation, should not be lost sight of. Some soils, from the proportion of the earths found in them, are more friable and easier to work than others; and some combinations are proved to be more suitable for the union with salts necessary to the excitement of voltaic or galvanic agency and the consequent vitality and circulation of plants; but alone, no possible modification or combination can make what is called a fertile soil. Were we to name for comparison the agents and the several parts they perform in the process of vegetation, we would call the *earths* the plates of the galvanic battery, inert while dry, or not subjected to exciting causes; the salts by their solubility furnishing the acids, such as carbonic, sulphuric, phosphoric, necessary to rouse the battery to action; and when this is done, humus or geine offers the only matter that can be taken into circulation and constitute (properly speaking) the food of plants.

According to the modern investigations of science, every particle of matter is pervaded by this universal agent, and requires only the aid of moisture to its greater or less development; the intervention of the fluid serving as a conducting power between the several particles. Pure water is the weakest exciting power yet known, but at

the same time the most durable. This is beautifully exemplified in the experiments of Mr. Crosse, who uses only water for the exciting power of his batteries when he requires their uninterrupted action for weeks or months, the slow continued excitement being more favorable to the development of animal life, or metalic or mineral crystalization, than one more powerful, but of shorter duration. This action of water shows why water alone, applied to the earths and through them to vegetables, has so feeble and tedious an operation on their developement. On the contrary, if the acids are supplied, and this is done in a multitude of ways, the action becomes at once vigorous; and connected with a proper supply of food, vegetation will be rapid and abundant.

This theory of vegetable nutrition explains, in our opinion, far more satisfactorily than any other, the mode in which manures, vegetable, animal and mineral, produce their effect on vegetation, and stimulate its growth. According to Chaptal, the different substances afforded by animals, and useful as manure, including all their secretions, are, "gelatine, fibrine, mucus, fat, albumen, urea, uric and phosphoric acids, and some of the muriates or salts." Here, it will be seen at a glance, are a multitude of exciting and nutritive causes mingled, and when combined, as animal manures usually are, with vevetables decomposed, the available geine is considerably increased. The liqiud manures found so powerful in Flanders, and the use of which is such a marked feature of the excellent Flemish husbandry, are, it is well known, mostly composed of the urine of animals. The analysis of urine by Mr. Brandt discloses the cause of this efficiency.

Water,	65
Phosphate of lime,	5
Muriate of Potash and ammonia,	15
Sulphate of Potash,	6
Carbonate of Potash and ammonia,	4
Urea,	5
	100

A more active combination could scarcely have been devised than this analysis shows such manures to be; and though Fourcroy and Berzelius slightly vary the constituents, their analysis does not materially alter or impair its efficiency. Of the above animal ingredients, we will select but one to illustrate our theory, as it is one respecting the efficiency of which as a manure there can be no doubt, and which is daily coming into more general use —we allude to phosphate of lime or bone dust.

Bones, as a whole, contain about equal quantities of phosphate and gelatine. The harder and more compact the bone, the greater the amount of phosphate, and the less the proportion of gelatine. The bones of the ox contain from 50 to 55 per cent. of gelatine; those of the horse only from 36 to 40; those of the hog from 48 to 50; and the bones of the legs and feet of the deer, elk, roebuck, and hare, give an analysis from 80 to 90 per cent. of phosphate. All the roots, such as beets, carrots, &c., and the grains, such wheat, corn, &c., contain considera ble quantities of this phosphate; and its presence would seem to be of much importance in the vegetable and animal economy. When bone dust is deposited in the ground, it speedily undergoes decomposition, and the principal ingredients in its composition are set at liberty to form new combinations, and perform a new part in the great circle of nature's revolutions. The phosphoric acid leaves the lime, and as in all its forms of existence it is one of the most exciting agents, its application to the earths is almost as immediate as the dip of the chemist's plates into the galvanic trough. The lime set free is, by the absence of the neutralizing acid, perfectly caustic, and seizing at once on whatever geine is found in the soil renders it soluble, and thus fit for immediate use by the plants while in their excited state of action. Can it be wondered at then, that bone dust should be efficaceous, or that its effect on vegetation should be almost instantaneous? It may be further remarked, that bone dust applied to very dry or very wet land, loses much of its efficiency; a reason for which may be found in the fact, that in the first instance the ordinary voltaic agent is but imperfectly supplied, and in the last, the acid is so diluted as to become but little superior to water itself.

The efficiency of carbonate of lime as it is generally applied to soils, is to be accounted for on the same principles. It differs, however, in this respect; in the phosphate the acid is set at liberty in the soil, in the carbonate it is driven off by burning. Like the phosphate, the lime is at liberty to unite with and render soluble, all the insoluble geine or vegetable matter in the soil, but unlike that it furnishes no acid to stimulate the voltaic agency to more vigorous exertions. Its effects, though certain, and most beneficial, are not so immediate as those of the phosphate. We may say, that by the application of common lime, the food of plants is *cooked* for their use; by the phosphate, it is not only cooked, but they are excited to devour it. The better the operation of lime in all its forms is understood, the more highly will it be prized and its use the more widely extended.

This theory of the nutrition of plants by voltaic agency, most happily explains the manner in which such small quantities of the salts of lime produce such astonishing effects on vegetation. Every experimental chemist knows what effect the combination of a few drops of acid with the water of his galvanic trough will have on his battery; and the application of lime to our battery of nature, when under proper circumstances, is equally effectual;—nay it does more, for the application of the acid by the chemist only excites his instrument to activity, while the lime furnished the earth by the farmer not only excites the action, but furnishes the material upon which that action can profitably be exerted. All persons acquainted with the use of lime are agreed that it produces little or no effect, except by mechanical division, only on lands that contain animal or vegetable matter that requires decomposition, a decisive proof that lime of itself does not constitute the food of the plant. But let a soil deficient in lime, and containing the food of plants, be furnished with the smallest quantity, and, unless rendered inactive by perfect dryness, or excessive moisture, its effects will be observable at once. Even the small quantity that adheres to wheat, when steeped and rolled in lime, produces a sensible effect on the vigor and rapidity or the shoot.—So too with the sulphate of lime, which, at the rate of only one or two bushels an acre, produces such an effect on many kinds of vegetation.

If our notions of vegetable nutrition are correct, all soils will be fertile that contain lime, and geine or humus; and the object of the analysis of soils will be directed to the determination of these two points. The sand and the clay present in any soil can be known without difficulty. Every farmer knows whether his soil is adhesive, retentive of moisture, or, in other words, convertible into mortar by moisture and the operations of agriculture; or whether it is dry, porous, easily parting with water, and liable to leach; and he knows too that a combination of these soils will materially benefit, and remedy the evils of both. But he has not hitherto been able to determine the best applications to give fertility to his soil, or ascertain whether the defect was the want of lime or vegetable matter; and the methods of analysis proposed by Davy, Chaptal, Beck, and others, are too complicated and nice for his purpose.

This difficulty we imagine is now in a great measure overcome, and a method of analysis discovered, by which any farmer, with little time and expense, may determine the quantity of vegetable nutriment that exists in his soils, whether it is soluble or insoluble, and whether lime is present, or requires to be applied to promote decomposition and vegetation. Dr. Dana of Massachusetts, who has long been occupied in chemical investigations, connected with manufactures and agriculture, has lately given the following directions for ascertaining the geine in the soil, and the lime. It will be seen the process is very simple, and can scarcely fail of being effectual. We quote from Prof. Hitchcock's Report, :

"1. Sift the soil through a fine seive. Take the fine part, and bake it just up to browning paper.

2. Boil 100 grains of the baked soil, with 50 grains of pearlashes, saleratus, or carbonate of soda, in 4 ounces of water, for half an hour; let it settle; decant the clear; wash the grounds with four ounces of boiling water;—throw all on a weighed filter previously dried; wash till colorless water returns. Mix all these liquors. It is a brown solution of all the soluble geine. All the sulphates have been converted into carbonates, and with all the phosphates are on the filter. Dry that, therefore, with its contents at the same heat as before. Weigh—the loss is *soluble geine.*"

For the lime:—

"Replace on a funnel the filter and its earthy contents; wash with 2 drams of muriatic acid, diluted with 3 times its bulk of cold water. Wash till tasteless. The carbonate and phosphate of lime will be dissolved, the alumina scarcely touched. We may estimate all as *salts* of lime. Evaporate the muriatic solution to dryness, weigh, and dissolve in boiling water. The insoluble part will be phosphate of lime. Weigh again—the loss is sulphate of lime."

To ascertain whether the residuum contains *insoluble geine:*

"Test it by burning a small quantity on a hot shovel.—if the odor of burning peat is given off, the presence of insoluble geine is indicated. *Calcine* and filter. The loss in weight will give the insoluble geine."

POISON OF LEAD.

Several cases of poisoning from the use of Water contained in lead vessels having occurred at Hull, in England, the British Association, at their last meeting, undertook the investigation of the subject; and as from the extensive use of lead as pipes for conducting water, or cisterns for receiving it, it is of importance that the danger from this source should be understood, we give an abstract of the results of the investigations of that learned body.

The researches of Guyton, Morveau, Col. Yorke, and Prof. Christison, have demonstrated that saline water does not affect lead; but that pure water corrodes it. Rain water, collected in leaden cisterns, will dissolve the metal in considerable quantities, probably as hydrated oxide; but if such water be filtered, or agitated with carbonaceous matter, it is altogether removed. The corrosion of the lead is due to the oxygen of the air: this was made clear by the following experiment, which was instituted some years since and is still in progress. Three bottles were filled, the first with Thames water, the second with distilled water containing air, and the third with distilled water deprived of air, and into these three slips of lead were introduced, and the bottles hermetically sealed. The lead in the first has been acted upon; the second has been still more extensively corroded; but that in the third continues bright.

It is evident from these facts that lead cannot be a safe material for the conveyance or holding of water. Lead in any state is a certain though slow poison, and when dispersed in water, in the shape of an oxide, it cannot fail of gradually undermining the health and constitutions of those who use it. Wood, stone, or lime, are all in this respect preferable to lead, and should be adopted in all cases where the substitution is practicable.

Selecting Seed Corn.

We wish at this period to direct the attention of farmers to a practice, the utility of which is generally admitted, but which is almost universally neglected from a want of remembering it at the right time. This is the selection of seed corn. It can be much best done while the corn is standing in the field, provided it is sufficiently ripe. The best part of the field should be chosen, and the operator with a basket should pass regularly along the rows, and whenever two or more ears are found on one stalk, the upper one only, which is the best, is to be taken. It commonly happens, however, that corn is to be cut up before it is ripe enough for plucking the ears from the stalk; in this case, the workman should pass along as before, and *cut up* all those stalks which have two or more ears, and set them aside, to be husked for seed. If corn has been already cut up without selection, it may still be done at the time of husking, though with less convenience than before.

Selecting in the crib is frequently practiced, but is very imperfect, for there the largest ears only can be chosen, not those from the most prolific stalks, The great object is to obtain the most productive seed, and this is found only on those which bear two or more ears.

A continuation of the practice of selecting seed for several years, has increased the productiveness of varieties

one third. The time required in gathering enough for a large corn field is but trifling, while the results will be great. A brief estimate will show the importance of the practice. Suppose that the expense of cultivating and securing an acre of corn is fifteen dollars; that the product is thirty bushels, at fifty cents a bushel; the profits of course are entirely destroyed by the expenses. But if by selecting the seed, we obtain a variety which, with the same culture, will yield forty bushels to the acre, we then have a clear gain of ten bushels. In fields of many acres, this would be no trifling consideration. And when the whole country together is considered, it must be evident that thousands of dollars are annually lost merely by neglect of this practice.

Facts for the Fireside.

'Tis thus Benevolence her laws fulfils,
And Justice executes what Nature wills.

All the laws of Nature, but especially those of our own organization, are instituted in infinite benevolence; and every instance of pain, sickness and suffering, is an example of the penalty attached to one or more of these violated laws.

The two most prominent laws of our organization relate to Nutriment and Exercise.

Our bodies are made up of organs fitted to the performance of certain functions. These organs, thus in a state of constant *action* necessarily occasion a wear and waste; and this waste demands a supply for the usual reparation. Whence then is this supply derived? Chiefly from solids and fluids received into the stomach. Under the influence of the vital power the necessary selection and appropriation is made.

A diet too poor and unstimulating often begets scrofula and many other constitutional maladies. The poor Irish, and the hungry herds who subsist on the meagre pittance of Soup Societies, are painful examples of the truth of this remark. Among the opulent, however, the opposite error prevails—as their bloated forms and gouty limbs plainly show.

Gluttony is a breach of the law, the penalty of which is so irretrievable that no violator can escape.

A certain amount of food is necessary for the healthy support of the human body; and every iota taken into the stomach, over and above what the law of nature requires, tends to weaken the constitution and induce disease.

The quantity that some people are able to crowd into their stomachs, by long habits of gluttony, is indeed enormous. A case is recorded of a man who ate 64 pounds of food daily, for six days; and another of a Frenchman who used to eat his own weight of beef every 24 hours. A man, recently, in the State of Maine was at work felling trees, and had his dinner brought him at 12 o'clock. At 2 o'clock he left his work saying he should work no longer unless he could get something more to eat. On inquiry, it was found that he had eaten for his dinner the following articles, viz:—two quarts of fish and potatoes, two quarts of bread, and milk, two quarts of old cider, and a one quart or a three quart dish of baked pudding—the good lady of the house did not recollect which. The gentleman who employed him very wisely remarked that he did not hire him oftener than he could help, for he thought it must take nearly all his strength to digest his food.

It is a fact that the great mass of the community eat food not only too rich and stimulating in quality, but also use far too much in quantity. And but a glance at the community will show that their penalties are meted out in the form of Dyspepsias, Liver diseases, Dropsy, Gout, and premature Death.

The tender mother wonders that her sinless offspring should suffer so much pain and then be snatched from her tender embrace by a "mysterious providence," when in fact the child only suffers the penalty of just and immutable laws which her own pampering has broken.

The stomach, like every other organ, requires rest after the performance of its labor. And yet how every mother will tell her Dyspeptic son to "eat little and often." Oh, ruinous practice! "eat little and often"—the echo of these words has been the death dirge of thousands. Ah! how does it ring upon the ear of the poor Dyspeptic, and how does it hasten his progress to that grave which he so much dreads!—*Vermont Phœnix.*

Indian Corn.

Great complaints continue in some parts of the United States in regard to the drouth, which has cut short the crop of Indian corn. The price of it has risen to $1,08 and $1,10 in Boston in consequence. We are happy to state that the crop never looked better in Kennebeck county. Some farmers have already gathered ripe ears enough for their next year's seed. We are yet favored with showers, which keep the soil in a good state of moisture; and feed as yet looks very promising.—*Maine Farmer.*

COMMUNICATIONS.

Crops in East Bloomfield.

In giving in my fifth annual report of the crops of this Town, I am happy in being able to respond to the universal report of good crops, and the general prosperity of the farming interest which so universally prevail throughout the country.

Wheat–Our staple wheat is a good crop. In compariosn with former years, I think it as good as any crop for the last five years. The berry is plump and the quality good generally throughout the town, and, although the quantity falls short of expectation, the quality is admitted by all to be good.

There is a greater uniformity in our fields; scarcely any in which it was a failure. There is a deficiency in quantity with almost every farmer. The fine appearance of the straw and berry led us to expect an unusually heavy crop, but threshing shows that we have over-rated it. The seeding time was favorable and the fall growth good. We had a few bad days in the spring, which threw out a good deal on low wet lands. The summer past has been fine, and though it came so rapidly forward, it was not injured by rust or mill-dew. Harvest was ten days earlier than last year. We were not troubled with worms working in the roots in the fall; but wheat worms working in the berry, is found in probably every field, although not in sufficient quantities to excite alarm. Some farmers complain of smut, but none who prepare the seed by soaking in brine and rolling in lime. Of the varieties, I think red chaff has produced the greatest yield. *Spring Wheat* was much sought for last spring, it being with us a new crop. I believe the produce was such as to equal expectations. It will not, however, rival winter wheat unless assisted by the wheat worm or some other dire calamity.

Barley—is not as good as usual. A larger quantity was sown, and the amount raised will be about the same.

Oats are generally said to be below the ordinary yield.

Corn.—Of this crop it may be truly said the season has been propitious, and the yield will be greater than we have had for many years. Owing to the very unfavorable time for planting, there was less planted in town than at any time during my rememberance. The quantity raised will therefore be no more than usual.

Grass—This has been a fine season for grass, and the amount of hay cut has been more than usual. Although on our right hand and on our left hand, the drouth has been severe, we have had copious and seasonable showers throughout the season.

Potatoes make a good display of tops, but the yield will be very light. "Planted in the wrong time of the moon, all ran to tops."

Buckwheat looks very fine.

Peas are a good crop, and the quantity raised has been more than usual.

Ruta Baga, &c.—The uncommon warm weather this summer has given great vivacity to the insect tribe, and the way they have destroyed our turnep crops should be a caution to farmers to be prepared for great watchfulness, and can, if they would, always insure a crop. Very few fields have escaped their ravages–and those look very fine. Many of the weak in faith are saying they will never do any thing in this country, and fain would have them abandoned. But where would be our agriculture, were every effort to improve it abandoned at the first failure? Where would have been our Short horned Durhams, our China pigs, and fine sheep? Verily our farming would be lingering in the dark ages.

In conclusion, I would say that we have abundant reason for gratitude for the rich bounties of Providence bestowed upon us. We have been blest more generally in all our crops than usual, and health and prosperity attends all classes. The poor man and the rich, have equal reason to bless the Lord for all his goodness. If the rich have had more given them, they have to depend upon the poor man to help them to secure their abundance, and to divide liberally with him. Yours, O. P. Q.

East Bloomfield, Sept. 10, 1838.

Selecting Seed Corn.

One important method of improvement in agriculture is by the selection of good seed. This is not only essential for the purpose of improvement but for the purpose of preventing deterioration. Almost any seed may be improved by proper every and if every farmer has a valuable kind and rests satisfied without improvement, he must not suppose that it will continue good without that pains which is usually practiced to improve it.

We often hear farmers and gardeners speak of their having had a valuable kind of grain, peas, or something else of importance, and now, they say, they have *run out*, and they know not where to find any of the kind; so having managed in such a way as to allow an excellent kind of vegetable to degenerate, they have recource to some other kind that has been improved under the judicious care of more skilful cultivators.

Corn is a very profitable crop to the farmer, as the fodder, with good management in curing, and in feeding, is usually worth as much as a good crop of grass on the same ground; the grain is cooked in many ways and forms an excellent food for man, and it forms a good food alone, or is a valuable ingredient in mixed food for stock.–The importance of this crop, and the difficulties in raising it in cool seasons, should stimulate every farmer to learn what kind is best, and induce those who have good kinds to select seed judiciously, that they may in a measure overcome the troubles that attend its cultivation. And here we should urge one very important consideration upon the farmer, which, we believe, will pass unnoticed by many to their very serious disadvantage; that is, this season has been unusually propitious to the corn crop, and the farmer should calculate to plant seed suited to the short, cool seasons for a number of years last past, rather than calculate on a succession of such seasons as the present.

The earliest ears that ripen, if they are well filled, of good form and large size, should be selected for seed, and marked by tying some husks together, or in some other way, that they may be distingushed at harvest; or if the corn be well ripened it may be gathered at the time the selection is made. If a very valuable variety of corn be cultivated that is rather late for the climate and it be desirable to acclimate it, the very earliest ears must be selected without so much regard to their size and beauty; but if the corn be sufficiently early, and it be necessary to improve in the size of the ears and in productiveness, then none should be selected but the large, handsome ears that are well filled, and that grow on stalks that have two good ears or more, the best of which only should be taken.

Though a kind of corn may be sufficiently early for the climate, the ears that first ripen, being otherwise as desired for the above purposes of improvement, should be selected, otherwise it will grow later and adapt itself to the climate where it is cultivated; and not only that, as corn originated in a southern climate, it is prone, when cultivated in the north, to grow later and adapt itself to the longer season in the climate of its origin. Therefore care is necessary in order that early corn may continue to be early; and if the seed be not selected when the corn is ripening, so that the earliest ears can be distinguished, the large late ears will be likely to be selected, and thus the crop will be later and later every year.

Seed corn should be selected from those stalks that are large at the bottom, and are not very high, but run up of a regular taper, and have the ears set low. If convenient the corn should not be shelled from the cob long before it is planted, as that part where the chit starts is very tender, and has a thin covering for its protection, but it is protected by the cob before it is shelled. As that part of the corn that contains moisture, and seems to be the seat of life in the vegetable process is embedded in the cob, with a very tender skin over it, it is evident that on exposure, when taken from the cob, the moisture will gradually evaporate, and the vitality be destroyed. We have never made nor heard of experiments being made on this point, but from the examination of a kernel of corn, and the manner in which the soft, moist part is protected in the cob, and by the compactness of the neighboring kernels, we have no doubt that corn on the cob will retain its vitality much longer, probably as long again on the cob as it will off. This is supposition; we should be pleased to hear of experiments on the subject.—*Yankee Farmer.*

CIDER.

Good cider is a pleasant beverage, but poor, hard, sour cider, is unfit for man or beast to drink. The time for making this article draws nigh, and although the reforms which have taken place in regard to guzzling down intoxicating liquors, have lessened the amount made very much indeed, yet we contend that what is made should be made well. We have been kindly favored by an English gentleman with the following process for making this article in his country, which will undoubtedly be followed with success in this.

Do not take the apples off the trees till they are fully ripe. Gather them in dry weather, and place them in

heaps under cover. Leave them in those heaps till they sweat, or some of them are getting rotten. Then grind them. The pulp should be placed in clean tubs, and not pressed under two days at least. It should be turned once or twice during this time, both to prevent it heating and to imbibe the air. When pressed, strain the liquor and put it into a vat,—a pipe or hogshead with one head out, and a cock about six inches from the bottom, is the proper vessel. To each hogshead of liquor put a wine glass and a half of sweet spirits of nitre. This is to check fermentation. When the cap or crust which rises to the top begins to crack or break, which will be in about twenty-four hours, rack it off into a clean vessel,and be very careful that none of the lees get into it. Place the bung very loosely in the cask, or, if it be inclined to work much, place a shingle over the bung with a small weight on it.—If not,—it may be bunged down, leaving only a vent peg very loosely put in. In eight days from this it should be carefully racked off again, and in fifteen days racked off once more, and then put into a cellar. Before each racking the vessel into which it is put should be well fumigated with sulphur, by plunging in burning matches, made of linen or paper dipped in melted brimstone, and sprinkled with Caraway and also lavender seeds, if they can be procured, and some powdered alum. Means must be taken to keep the smoke in the vessels as long as possible, and to put in the cider while it is there.

The vessel should also be well scalded with hot water, and then rinsed out with cold, before it is used. If a cask is tainted, the cider is lost. The great secret in making good cider is to stop the fermentation as quickly as possible; and the above process does it most effectually. Cider may be colored, if it be desired, with burnt sugar, and it may also be made to sparkle by putting a little powdered white rosin in the pulp or pumace while pressing.

From the Yankee Farmer.

Green Crops.

Mr. Editor.—Of all the modes adopted to enrich worn out soils, the cheapest and the surest is the ploughing in of green crops. In this process we need no assistance from the chemist to analyze the soil or the manure. We can safely depend on the vegetable matter that has grown on the soil to nourish another growth on the same, and if we plough at the proper season, and completely subvert the sod so as to cover this growth, fermentation will be rapid enough for our purpose, and will pulverize the soil more completely than repeated ploughings.

To renovate mowing lands that have lain so long as to be filled with grass roots that choke and obstruct the circulation of the juices, they should be ploughed about the first of September with a plough that lays the furrow flat. If the land is poor we spread on ten or fifteen loads of compost manure—roll the whole down close so as to leave no cavities below the surface, then harrow lengthwise of the furrow at first, next harrow diagonally, but never crosswise. We then sow our timothy and our redtop, and cover the seed with a bush harrow.

This is the only feasible mode of new-seeding low, or wet lands, for we cannot meddle with them in the spring, and if we could the cultivated crops never repay the expense of cultivation, and the lands are left heavier than when we commenced.

By adopting the proce s recommended we kill the growth of wild and sour grasses that always are creeping into low grounds. We have the benefit of a rolling green crop without the expense of a fallow. We lay our land much more smooth for the sythe than we possibly can in the spring. We avoid the expense of planting such land.—We have a bed of soil that lies lighter than land that has been tilled; and we do this at a most leisure season, when our teams are strong and when the expense of keeping is trifling when compared with spring feeding.

No clover should be sown at this season; that may be cast on after winter commences, or on April snow; it will then be buried deep enough and will serve for fall feeding. If this process is repeated a few times, after proper intervals, we should be under no necessity of manuring!!—The old sod, turned up, will make a sufficient compost for the newly sown seed, and thus render our land richer and richer at every turn, provided we sow grain. We arrive at this conclusion from the fact that the grasses do not exhaust the soil. For whether a field has lain three years or six years in grass, we perceive not the least difference in its richness on ploughing it up to till again. Grass lands should be occasionally ploughed, for they become choked up with the roots; the ground is bound out, but not impoverished, by feeding or by mowing.

Framingham, August, 1838. Yours, W. B.

Beet Sugar.

The following is an extract of a letter from D. L. Child, who traveled in France in order to obtain information on raising beets a id the manufacture of beet sugar.

Arras, Jan. 9th, 1837.

De/a Friends: I have now been one month an observer of labor in a sugar manufactory, and have made short visits to several others. The beet sugar business taken in all its branches and bearing, is interesting beyond my expectations; but to the mere manufacture I doubt whether it is as profitable as Pedder's report would lead one to suppose.

In the first place the beets do not yield on an average more than *five* per cent. of sugar. They may yield more when first dug and before they have begun to *sprout*, but I am satisfied that *six* per cent. is the uttermost that can be calulated upon under the most favorable circumstances. The beets after being gathered together in heaps and covered with earth to preserve them from frost, soon begin to sprout. By the middle of December this season, which had been warmer than usual, they had put forth considerably. Various expedients have been employed to prevent the heat, which is generated in the heaps, and gives rise to this, but none of them have as yet completely succeeded. This shows an importance of an early sowing and an early commencement of working up the crop. Here the seed is sown in the first days of May. In Illinois, I should suppose it might be sown as early.—The working up of the crop ought to commence before it has attained its uttermost growth, say in the last of August or the first days of September at farthest. There will then be seven months for the manufacture, and the most of those, months in which laborers have little employment, and may be hired for comparatively small wages.

The quality of the sugar earliest made is best, as well as the yield the greatest.

I have before me a specimen of the brown sugar of the beet, as full of sacharine and as free from any bad taste as any cane sugar I ever saw, and far more beautiful in its appearance. It is like a rich yellowish New Orleans brown, that I have occasionally seen in the American markets, only a shade whiter. I have also a specimen of *clayed* beet sugar of a pure whiteness, and free from all ill flavor. While therefore I state the general objection to the brown sugar of beets, I also say that in a well provided and well conducted sugar manufactory from beets just dug,or very well preserved,brown sugar can be made as good in every respect as any from the cane, and far more beautiful and attractive in appearance.

The most interesting aspect of the beet sugar business is its bearing upon agriculture and rural economy.

1. It enriches the land both as an excellent substitute for fallowing, and as producing an immense quantity of capital manure.

2. It has the latter effect in various ways, but principally by feeding a large number of cattle and sheep; the former are fatted in three to three and a half months in a manner really superb. So fine specimens of beef creatures are seldom seen in the United States, after six months of the best pasturing and stall feeding. The sheep are fatted in six weeks. At the manufactory where I have been, they pay on an average about *six louis* for cattle, and sell them for about *eleven*. A louis is about $4 37. I suppose that this branch of the business would be quite as lucrative in the United States,where stock animals may be bought somewhat cheaper. This you see is doubling capital three times a year, with the help however of the pulp or pumice of the beet. This can be kept good any desirable length of time. It is sold here at 10 cents the cwt.

3. The profits of raising the beets is very great, according to estimates which I have from the most intelligent sources. I do not find it so high as Mr. Pedder did. My data make the nett gain in France, after paying rent, ploughing, weeding, hoeing, digging and preserving, 404 francs per hectar. This measure is a trifle over two English acres. Consequently the profit of cultivating beets on an acre will be 202 francs, about $38. Can you wonder that land has risen from 50 to 105 per cent. in the districts of the sugar manufactories; the produce of a hectar amounts to $56 81. This would give for 100 acres $2849 nearly; and for 400, which would be the quantity required for the largest establishments, 11,830, to say nothing of the profits of the proprietor or leaseholder, when he and the laborer are one and the same. In this case, besides getting pay for his labor, and the rent or interest of his land, he would receive the $38 per acre.

The land must be ploughed eight inches deep at least, and this ought to be done in the the month of August,—Still fine crops of beets have been obtained by breaking up grass-ground in the spring, immediately before the seeding. The land should be turned up handsomely, and all the grass and other vegetable matter fairly deposited underneath. Then it must be harrowed deep and fine, but the same way with the furrows. If the furrows be disturbed, it spoils or greatly injures the crop. The seed is to be sown in rows, 20 inches apart, on the top of the furrows and the same way with them. No plough must enter after the sowing, but the land must be dressed 2 to 4 times according to its tendency to weedness, with the hand or hoe. The vegetable matter decay and give wholesome nourishment to the beets. I suppose these remarks may be of less consequence to the proprietors of the rich prairies of the west, than to those of the lands in France, and in the northern and middle states of America. There can be no doubt however that the decomposition of fresh vegetable matter will afford a more active stimulus to vegetable life than old mould however rich. The land for beets must be good, but it may be too good. In this case it wil produce beets of an enormous size, but hollowed and decayed, and affording less sacharine matter than much smaller ones. Very poor land made rich by high manuring, is said to yield large beets, containing a great deal of potash and sal ammoniac, but very little sugar. At the first weeding, when the beets are about 1 or 1½ inches high they must be thinned so as to leave one plant to every 12 or 13 inches of row. If there be spaces where the seed has not come up, some of the plants pulled up should be transplanted into those spaces.—*Yankee Farmer.*

Green Corn Pudding.—This is one of the few "delicacies of the season," which are peculiar to our townsfolks. It has been a favorite dish, from time immemorial—a knowledge of its composition and manufacture having been originally derived from the tawny natives among whom our ancestors squatted down two hundred years ago. Visitors to this place during the corn season, are often regaled, of course, with this sort of fare—the memory of the flavor of which abideth with them long after their departure hence. For this reason, much anxious researches among city housewives, for a correct prescription in the premises, has been known to have occurred. "My dear lady Adams can you inform me how those Nantucket barbarians contrive to concoct their corn-puddings?" "Pray, Mrs. Clay, or Miss Van Buren, tell me the *modus operandi* of the corn pudding miracle! I am longing for another taste of that most savory compound, so deliciously fabricated by those unsophisticated females out there in that Island of Wotchukollit." And there is no end also to the epistles on this subject which are annually poured in upon us during dog-days, evidently from the very fairest of correspondents—all imposing upon us the sweetly gratdful obligation of sending them, respectively a code of directions.

That we might be enabled to fulfil our whole duty towards every applicant at the same moment, we have procured from a sympathising friend the annexed recipe, which may be relied on as the real Simon-pure–the primitive, orthodox, corn-pudding canon—*q. e. d.:*

Rules for makyng, cookyng, and eatyng Corn Puddyng.—Gather ye corne in ye milke, when neither too yonnge nor to ripe. Shell, cut, or scrape ye corn from ye cob, and pound it fine in a big mortar, with a heavy pessle. To ye corne of four dozen ears, add one pint of milke, and a half a pounde of sugar–the whole to be mixed together, and baked about two houres, till ye crust shall show a darke browne complexyon. It is to be eaten with fresh butter laide thereon—to which some adde a sprinklyng of pepper. The addition of eggs doth not help ye puddynge. Boyled corne puddyngs are softer, but not so goode.—*Nantucket Inquirer.*

A Good Appetite, or a Crammer.—In the frozen regions of the North, the appetite for food and the power of digestion are commonly excessive. Captain Cochran, in his account of a journey through Russia and Siberian Tartary, gives some remarkable illustrations of this fact. Admiral Saritahef states, that a Yakuti informed him, "One of their men was accustomed to consume when at home in the space of a day, or 24 hours, the hind quarter of a large ox, twenty pounds of fat, and a proportionate quantity of melted butter for his drink. The appearance of the man not justifying the assertion, the Admiral had a mind to try his gormandizing powers, and for this purpose he had a thick porridge of rice boiled down with three pounds of butter, weighing together 28 lbs.; and although the glutton had already breakfasted, yet did he sit down to it with the greatest eagerness, and consume the whole without stirring from the spot." Captain Cochran says "I have frequently seen a Yabut, or a Tongouse, devour forty pounds of meat in a day;" and "I have seen three, of those gluttons consume a reindeer at one meal." He adds, "I myself have finished a whole fish in a frozen state, which might have weighed two or three pounds;—and with black biscuit, and a glass of rye brandy, have defied either nature or art to prepare a better meal.',

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The Corn Crop.

From the information we have received from different parts of the state, we are induced to belive that the crop of corn will on the average, be quite as good as common, throughout the state. It has received but little injury for the want of rain; and our warm summer has brought forward that that was kept back by the wet weather of spring and early part of summer, very rapidly; and there is now but little danger to be apprehended from frost.—A light frost occurred on the nights of the 2nd and 3rd inst., which however did but little injury. Our accounts from sections of the middle and southern states are however truly alarming. The corn, potatoes and buckwheat,

in many places, being nearly cut off by the drouth. In some places the farmers were cutting up their corn for the purpose of saving the foddder only. Oats have produced but a poor yield from the same cause, but the wheat crop in those sections is of fair average. In the northern and eastern states, the prospects are much better for good crops. Accounts from England are promising of good crops of wheat and hay.—*Indian Farmer.*

Silk Culture in New-York.

We are glad to learn that the inhabitants of the Western part of New-York, are engaged in the Silk Culture. We have received orders for trees, amounting, in all, to 27,500, to be delivered in October next, which will be carried to that part of the country, and we have not a doubt but they will prosper there. The prices agreed on were somewhat higher than those of last year, yet entirely satisfactory to the purchasers. The sales of the Mulberry have already commenced with a briskness that evinces the great interest the public take in this enterprise, and the confidence it has in the superior merits of the Morus Multicaulis.—*American Silk Grower.*

From the Farmers' Cabinet.

On Top Dressing Grass Lands.

Dear Sir—A writer in the Farmers' Cabinet over the signature of Agricola recommends not only the sowing of grass seeds much *thicker* than is most generally practised by even our best farmers, but also the *top dressing of grass lands.* The latter plan, top dressing, I have tried, with lime, not marl, as that could not be obtained—and with the best results. When I first commenced my operations, I was not a little ridiculed by my more experienced neighbors—but I bore all in perfect good humor, satisfied that the operations of time would set them right. And in this I was not deceived. The nature and operation of lime as a manure was not then, and I seriously doubt, whether it is now understood—but that it produces, under some, circumstances, highly beneficial results, is not a subject of disputation. But *how* these results are produced, is a question not as readily disposed of. When I first tried lime many of my friends allowed it might do good provided it was ploughed in, and thoroughly incorporated with the soil. Others, again, thought it ought to be buried very deep indeed—and some, *practical* farmers of course, ridiculed the whole system of theory and book farming in particular. This was no doubt out of sheer kindness to me, as I had become a book farmer by having that year, 1819, purchased a copy of Sir John Sinclair's Code of Agriculture. Well, I applied, as I before stated, the lime as a *top dressing to my grass lands;* this was my first experiment in the use of lime. The results answered fully all my expectations, but were not as immediate as I could have desired. My grass crops were greater in *quantity* and better in *quality* than those of my neighbors. This was owing solely to the application of the lime—but my neighbors were slow of faith, and although constrained to admit the fact, the admission was generally qualified by the declaration that the benefit would be but temporary—and that the land, after the power of the lime had spent itself, would be left in a worse state than at first.* But this theory of our anti-theory farmers would not work. Prejudice yielded to the convincing power of facts—and now, lime is regarded in this very neighborhood, as one of the most important auxiliaries in fertilizing the soil and retaining it in good heart.

I do not fully understand—I should say that I but very imperfectly comprehend, the action of lime on the soil, or the manner in which it imparts its fertilizing principles. Being a mineral it has a tendency to sink into the soil. By the action of the atmosphere or air, and rain especially it is carried down gradually, imparting nourishment, either directly, or by its neutralizing qualities, or perhaps both, to the plants in the soil. We find lime entering into the composition of some plants, and in others, not. It is very important to understand the nature and constitution of the soil to which lime is to be applied, and great judgment is required in its application. The more perfectly powdered the better. In its caustic state it is thought to act simply as a decomposing agent on animal and vegetable matter, and on this ground it has been recommended where soils possess some dormant principles of fertility, as it will cause these principles to develope. Mild, or slacked lime, improves the texture of soils that are deficient in loose or sandy *matter.* It also produces good effects in soils in which sulphuric or other acids exist that are prejudicial or vegetation, by the power which it possesses of neutralizing them. To all soils stored with a quantity of inert vegetable matter caustic lime is applied with great advantage, but in these cases it should be well incorporated with the soil, so as to bring it into immediate and close contact with the fibrous roots, and other substances on which it is to act. "All sour, cold, stiff, or clayey soils derive the greatest benefit from a generous application of lime. Its tendency is to render them more warm, &c., while it destroys or neutralizes all principles contained in them noxious to vegetation."—These are briefly, I believe, the views entertained by many gentlemen who have investigated the subject. We have learned much; but we still have much more to learn. I would be much pleased if some of your intelligent farmers, for Pennsylvania farmers are in high repute among us—who have used lime for a succession of years would furnish through the columns of your useful paper, the results of their experience. We are seeking for information; we want light; let us have it. With my best wishes for the prosperity of your Cabinet, I remain,

Yours, respectfully, J. L. Seymour.

West Chester Co., N. Y., July 18, 1838.

From the Farmers' Cabinet.

On Stall-feeding Sheep.

Mr. Editor—At a late quarterly meeting of the "Agricultural Society of New Castle county, Delaware," it was requested of the corresponding secretary to elicit from *practical farmers* thoughout the state, such information and experience on matters connected with *agriculture,* as might benefit and advance the objects of the society, and when deemed of sufficient interest and importance, to publish the same for the use of its members. Many of them are subscribers to your valuable paper, and most of them interested more or less in sheep. The method Mr. Baynes adopts of making *fat mutton* will, no doubt, be interesting to some of them, and the information he imparts may be relied upon—founded as it is upon *experience.*

Yours respectfully,

James W. Thompson.

Wilmington, March, 1838.

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correspondence, &c.

Mr. Thomas Baynes.—Dear Sir—I am induced from some practical remarks made by you in a late conversation on the subject of *sheep for stall-feeding*—to solicit from you still further information on this important branch of grazing—not only for the benefit of our Delaware farmers, (who, in the prospect of a dog-law for the protection of sheep, from the next Legislature, will go much more largely into the business,) but also for the sake of the country in general. In all our great markets, *fine mutton* is scarce, and consequently high—it is one of our most *wholesome* meats, and, if properly attended to, one of the most *profitable* the farmer can raise. But unfortunately for agriculture, the great and leading avocation of so an—too few of its practical votaries impart their wism m and experience to others by essays and lectures, who dom uch need their direction and aid. The experience you acquired in England, and the years of observation you have had in this country as the shepherd of that celebrated feeder of fine mutton, Samuel West, of Delaware county, Pennsylvania, will give great interest to any communications from you on the subject—and as Mr. Barney has given a reputation to Delaware *sheep,* which they richly deserve—among the finest in the country—practical directions from you, for their treatment, and how they can be best improved and stall fed, will be thankfully received by those who wish to emulate his example—and profit by his valuable enterprise. Below, I have proposed some queries for you to answer at your leisure, or the interesting subject of *feeding sheep*—without a wish however to confine you to them. Any other information than they ask for, and in your power, I feel assured you will impart, and by so doing, much oblige yours, &c.

James W. Thompson.
Cor. Sec. Agricultural Society.

Wilmington, April 8, 1838.

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To *James W. Thompson,* M. D.—Esteemed Friend—Thy favor on the subject of sheep was duly received, and I will comply with thy request with pleasure as far as I am able. Samuel West, to whom thee has alluded, a practical farmer near Chester, Pennsylvania, feeds about 100 sheep per year—he purchases them in September, and if possible, selects a mixed breed of Bakewell and Merino, or Glade sheep. After getting them home, the first thing he does is to wash them in a clear stream of water, to cleanse them from dust, or mud which they may have collected in traveling. They are then turned into a pasture pretty well eaten down for a few days, when they are changed to a better one. It is best to change their pasture every week, particularly if the fields are small. They will do pretty well on grass till December, when they should be housed (see directions in answer to thy 4th question.) The cost of sheep for feeding is generally from $3 to $5 per head, and will mostly sell for double the first cost when fat.

John B. Baynes, of Naaman's Creek, Delaware, keeps a *breeding stock,* of fine quality of which thee has some knowledge. He allows thirty ewes to one buck, which is considered about the right number on a farm of one hundred acres—these ewes on an average will have forty lambs, which at 4 months old are worth four dollars per head. But I should recommend the yearlings kept over which would shear seven pounds of wool on the 40 head —equal to 280 lbs. at 40 cts would be..... $112,00
The 31 head of old sheep would shear five lbs. wool per head, 155 at 40 cents 63,00
40 lambs, when fat, at 2 years—$12 per head.... 480,00

$954,00

The food will cost $1 per head on the 40 yearlings,..... 40,00
Leaving, ... 614,00
The farmer's income from his *breeding stock.*

Ewes should be kept well through September and October, and the buck allowed to go with them on the first of October; after this time it is considered best not to keep them too high till towards March, when they should be kept better. Potatoes or turneps should be given till grass comes. Sheep should be washed about the middle of May, if the weather is clear, shear them ten days after Some of our farmers may not be prepared to purchase a flock of Bakewell sheep. A profitable business can be done, and at the same a good stock raised, by purchasing a few good common ewes and a Bakewell buck—it will greatly improve the breed by changing the buck every year and selling off the old ewes. In three years the breed will be very nearly as good as full Bakewell. If two farmers in the same neighborhood could exchange bucks, it would answer as well and be a saving to both parties. I have endeavored to give thee all the information in this, and my answers to thy queries below, I now think of, yet that I have omitted some things I have no doubt, but am willing at ahy future time to answer and impart any knowledge in my power, to aid thee and the valuable Agricultural Society of the county, whose advancement thee so ardently seeks to further. I remain thy friend.

Thomas Baynes.

From the Maine Farmer.

Essays on the Grain Worm.

Winthrop, Jan. 1, 1837.

Messrs. Trustees of the Kennebec Co. Agricultural Society:—Gentlemen: The recent appearance of the Grain Worm, among us, and the short time allotted for persons to hand in the observatious which they may have made for the consideration of the Trustees, do not permit the exhibition of so many well established facts upon the subject as it is desirable should be, upon one of such great importance to the community.

The Grain worm is the product of a slim or slender and delicately formed fly. This fly lodges its egg in the husk, or rather between the valves of the wheat when in blossom. This egg hatches into a small yellowish worm or maggot. This worm attaches itself to the growing kernel, and sucks from it all the milk or pulp, and prevents its growth. A shrivelled and worthless grain is the consequence.

After it has arrived to maturity, its forms a crysalis in the place where it has lived, from which it is dislodged, either by the ordinary process of thrashing, or by the ripening and shelling out of the grain. It is not certain that it invariably remains in the husks of the wheat to form the crysalis. On the ninth of August last, there was a warm rain, and it was observed that immense numbers of these worms were crawling out of the wheat, and apparently seeking shelter somewhere else. But it has not been centainly escertained whether they actually went down into the ground to put themselves into the preparatory condition for a change into the fly.

Yet it is certain that immense quantities of them were in the wheat during the last harvest, and covered the threshing floors, being blown out with the chaff.

It has not yet been ascertained what length of time the insect remains in the crysalis state. There is little doubt, however, that it continues in the dormant state during the winter, and even through the spring, until near the time when the wheat is in blossom. It is at this time that the fly is first seen. It is soon after this that the worm is seen, and the crysalis has been observed in the chaff late in the fall, and it is contrary to all the laws of nature as applying to most insects which undergo these transformations, to come into the fly state during or at the beginning of winters.

The insect in question, has received the name of weevil. This is incorrect, and leads many to wrong opinions in regard to its nature. The weevil is an insect which infests some countries, and is exceedingly mischievous among grain after it is put into the bin, by eating into the dry grain, and devouring the farinaceous parts. But the Grain Worm does all its mischief while the grain is in the milk state, and as its gets through this stage, or grub state, by the time the grain is ripe, and becomes dormant previous to changing to the perfect state, it can do no damage to the grain after it becomes hard.

That there is a particular time when the fly does and must deposit the egg that produces the worm, is certain. This is corroborated by observation, and the fact that late sown grain was not injured by them, while the early sown

* Great crops, says a late intelligent English writer, have been produced by a *first* application of lime, and many have therefore been led into the error of repeating the operation too often without the addition of other manures. Great caution is necessary in this particular.—Ed.

was. After the warm rain above mentioned, on the 9th of August, when so many of them left the heads, no new heads were injured, or no new depredations were committed by them.

Many have supposed this insect to be identical with the small worm that is found in the heads of clover, and is seen spinning down from lofts or mows where clover has been stowed away. The cold seasons having retarded the blossoming of the clover, the worms have taken the wheat as a substitute. However this may be, we are certain that the grain worm, or clover worm, if clover worm it be, is not alone in its multiplication.

The cut worm has become more numerous of late, as also the white headed worm and grasshoppers. The cause of this must be sought for in the state of the weather or seasons. Ever since the winter of 1830 and '31, the ground has been long covered with snow. Even our January thaws have not much reduced the covering of snow upon the ground, so that the ground has remained in one state, or has not often thawed and frozen during the winter, and the worms or grubs not disturbed. When there shall come a winter in which the ground shall be often thawed and frozen, so that the germ, or whatever produces the fly, shall be disturbed, it will very probably diminish their numbers very much. Warm weather, it is well known, is most congenial to insects; yet they do not increase in exact ratio to the warmth of climate. Why not? Because the winters being more open or freezing and thawing, more frequently kills them.

The present increase of the grain worm must be a multiplication of them, for I hold that there has been no new creation since the first six days, and if so the causes above mentioned must have brought it about. Having multiplied they must spread in a corresponding ratio to previous numbers in such situations as are congenial to them.

We first heard of them several years ago in Vermont state, and they have traveled North and East, ever since. Thus it seems, their first increase was where the ground was covered early in the fall and late in the spring, and exactly where, according to my theory, they ought to have begun. As far as I can learn, they are not much known on the sea board, where the snow does not lie on long, or but a short time in the winter.

In regard to remedying the evils of this insect, it must be pretty much or wholly, on the preventive plan. I think that lime or ashes, put upon the soil in sufficient quantities to make it disagreeable to the worm, must be a good mode of preventing its increase.

From the fact that late sown grain has wholly escaped, it must be evident, that sowing late so as to bring the time of blossoming beyond the time of the fly's hatching, will prevent the mischief.

Sowing also, on high or elevated, and airy situations, where the breezes will agitate the grain, will also prevent their operations in a great degree.

Respectfully Yours, ELIJAH WOOD.

From the Farmers' Cabinet.

MARL.

In Vol. II. No. 14, I saw an article over the signature of 'Farmer,' in which he requested an account of our marl, the quantity per acre that is found the most useful, and the effect on grass, corn, potatoes, grain, &c.

The locality of this prime assistant of agriculture varies much more than one would expect who never had an opportunity of visiting that part of the country where it abounds. In many places it is found to rise in the banks from 6 to 8 feet, and in others the reverse, sinking as far below. The average depth in the ground is from five to six feet. When the marl has 6 feet of earth on the top of it, a pit can be sunk 8 feet without affecting or injuring the meadow from whence it was taken. There is on the top of most marl in New Jersey a mixed substance called grey marl, which is quite efficacious to land if put on in abundance. In other places it varies from the grey to the iron stone, oyster shells, and sometimes a stratum of clay or sand. And I have known marl to exist in any quantity in low sunken gullies, and as you approached the banks, to disappear, leaving nought but sand, water, &c.; likewise in other places to rise with the bank 12 feet perpendicular. The color there varies exceedingly. On the same vein of marl is often three distinct colors, black, blue, and a dark brown. The black with green grains therein, called by way of distinction the green sand, is found to be the most fertilizing of any. Professor Rogers, in his Geological Survey of the State, says "Squankum marl is the best in New Jersey," owing to its being composed principally of green grains with but a small portion of black sand. Out of one pit you will very often find three distinct kinds of marl, First, black, composed of sand and clay. Second, a mixture of clay and green grains, and, Thirdly, a white, resembling fullers' earth, which, when coming in contact with vinegar, will hiss and boil like pulverized chalk applied to the same. It is not my intention to extend my views on the subject, for fear of consuming too much of the reader's time, but would observe that there are great quantities of fossils, such as shells, teeth, bones, sulphur, decayed wood, &c., dug out of marl.

Nature has put every thing in its proper place; therefore it behoves man to be content. In some places she has been more bountiful than in others. In Pennsylvania, she has blessed man with exhaustless quantities of lime for the promotion of vegetation, and other uses of no less importance. In New Jersey, she has bestowed upon us immense quantities of marl, to augment our knowledge of the science of husbandry. She has placed the king of vegetation (marl) beneath sterile banks, not to the disadvantage of the owner, but to his profit in the end. After the marl is dug out, he fills the holes up with the sand taken therefrom, and converts it into the best of meadow. It is found to run in veins for many miles in length, but very seldom more than two in width. One would suppose all the vallies in the country round would be filled with it. It is not the case. Observation has taught many of us better than that. There are two vallies in the neighborhood of Pemberton, Indian Valley and Mud Valley.—They run parallel with each other, and not more than two miles apart in the farthest place. While Indian Valley abounds with inexhaustible quantities of marl, the other is left void of the same. Thus it is found, and only found to exist.

In a subsequent number I will endeavor to give the quantity per acre on different soils, and the effect on grass, grain, &c. Yours, respectfuly, J. F.

Clover Ridge, July 14, 1838.

MILLET.

The more experience we have with this production, the better are we pleased with it, and the fact of the deficiency of the pastures, the present season, urges us to suggest the propriety of farmers introducing its culture into their respective systems of husbandry. How fortunate would it be for those who are now compelled to feed out their winter stock of hay, had they been so fortunate as to flush up a few acres of their harvest fields, after the grain was cut off, and put it down in Millet, to cut and feed to their stock. Two acres of it in good ground, would yield grass enough to *soil* twenty head of cattle six weeks, and carry them in good condition into the middle of autumn.—should such precaution be taken in future, and the necessity for the use of it as green food not occur, it could be suffered to ripen its seed for market, the which being threshed out, would leave a large quantity of excellent proveuder to add to their winter stock.

But whether douth should occur or not, if cut and given to the milch cows, from its succulence and nutritious qualities, it would greatly add to the yield and quality of the milk and butter, and thereby increase the revenue of the dairy.—*Farmer & Gardener.*

From the Indiana Farmer.

Agricultural Society.

The citizens of Edgar County, Illinois, held a meeting at Paris on the 18th ult. for the purpose of forming an agricultural society. They adopted a constitution, and among others passed the following resolution—

"*Resolved*, That the Edgar county Agricultural Society have an exhibition at Paris, on the last Saturday in October 1838, when certificates only, will be granted, for the best specimens of stock, &c."

An address was delivered by Isaac Reed President of Paris Seminary, which has been forwarded to us for publication, and is as follows:

FELLOW CITIZENS–The leading interest of this country is the cultivation of the soil, and the raising of stock. And both of these are the direct business of the farmer. To be convinced that this is the leading interest here, one needs only to see the country. It spreads out before us, with its extensive territory containing 368,640 square acres. A large part of these acres, is ploughland—perhaps an equal portion is moist and meadow land. And the whole territory is susceptible of cultivation, and improvement in some way of farming, either by ploughing, or mowing, or pasturage; and much of it is even now, a natural pasture, abounding with grass. Again, the location, though interior, yet is near an important navigable stream—the Wabash River. Now it seems to me that any sensible man must see that here—in number and in thrift, Farming;—the Farming business, should hold the fore way.

It should lead the other kinds of business—and to make it do this we want Farmers—*practical farmers.* Farmers neither too ignorant, or too wise—or prejudiced to learn, to invent and to find out, improvements in grainand the ways of raising it. Improvements in kinds and breeds of stock, and in the ways and methods of cultivation and of preservation. Farmers—ready to seize and to practice the improvements, which have been found out by others. These, fellow citizens, are what we here need—These are what our country needs.–working men, with the hands and with the head. All should be working men, I go in for such. men who read and think—who judge and act. And let us have farmers of this sort, and we shall find thrift, comfort and prosperity will be found among them. And they will show in their farms, in their buildings, in their yards, in their gardens, and in their groves, over the broad and the fair plains of Edgar County.

Then fellow citizens, may Edgar County, and her town Paris, come up and thrive.

The influence of farming improvements will be good every where. And working mechanics will come and dwell here, not the lovers of the bowl—the hangers on at the groceries—but sober, temperate men. Men, who for the produce of the country, will beautify the country.—And then too, intelligent and upright and honorable merchants will be here.

The town will feel for the country and rejoice in its prosperity. The country will supply and sustain the town. It will be seen—it will be acknowledged, that the interests of the town and of the country, are blended and united, they are the interests of one community.

Heaven grant that it may be an industrious, an intelligent, and virtuous community.

With enough of temperence principle and of moral courage, to suppress and remove groceries, the nuisances of town and country.

And can we, fellow citizens, do any thing towards this intelligent and virtuous and prosperous state of things for our country? Yes—verily we can. And more, we must, let us will it, and we can.

☞ "Where there is a will—there is a way." And then we can lay down in our houses and sleep, without the rowdy noise—without the drunkard's songs and the drunkard's cursings, and the rowdy hurrah, sounding in our ears.

Historical Reminiscence.

Correspondence of the Boston Times.

DEERFIELD, Mass. Aug 18.

THE people of this ancient village have such a taste for trees and shrubbery, that as you approach it you almost imagine you are entering the precincts of a mazy forest. I have not, however, in the whole course of my desultory ramble, pitched upon a place better suited to my ideas of comfort and rural felicity than this. The people of the village are mostly independent farmers, who glean from their rich bottoms on the banks of the Connecticut enough to give them all the necessaries and desirable luxuries of life, and they live on from year to year, and to a good old age, in the midst of plenty and peace. If I recollect right, this is all that a rational philosophy of happiness can require.

There are some reminiscences connected with the history of this town which are worth preserving, and which are related by the present fathers of the village with all the warmth and enthusiasm with which *their* fathers handed the tradition down to them. About 1704, the whole New-England frontier, from Casco Bay to the east line of New-York on the west, was beset by hordes of hostile savages under the influence of Vandrieul, the French Governor of Canada. Deerfield, at that time, was the most northerly settlement on the Connecticut River—a few families in Northfield excepted. Against this place M. Vaudrieul sent out a party of about three hundred French and Indians, under the command of one Hertel de Rouville, assisted by four of his brothers—all of whom had been trained to the trade of human butchery by their father, one of the most blood-thirsty wretches of those bloody times. They started from the foot of Lake Champlain, passed through the valley of Onion and Connecticut Rivers, until they came to Deerfield. Mr. Williams, the pastor and head man of the village, had been much apprehensive of danger, and strongly endeavored to arouse the people to the necessary steps for defence; but it seems without adequate success. The Government of the Massachusetts colony had sent a guard of twenty men to the assistance of the inhabitants, and some slight fortifications, and three garrison-houses were erected. Rouville approached on the 29th of February, and sent out his spies for intelligence. The watch kept the streets of the village until about two o'clock in the morning, and then unfortunately went to sleep. The Indians had therefore no difficulty in entering the village, and separating into small parties, that they might enfilade every house at the same time. The first suspicion the inhabitants had of the approach of the Indians, they were entering the houses and commencing the work of destruction and death. Some few fled half naked to the garrison-houses, but the others became an easy prey. One only of the garrison-houses was able to hold out against the fury of the enemy. They slew forty-seven of the inhabitants, captured one hundred and twenty, plundered the houses of every thing worth carrying away, and then set the village on fire. The old garrison house which held out against this attack is still standing, and forms a fair specimen of the rude architecture of those days. The very door through which the Indians cut a hole with their hatchets, and through which they fired and killed one person, is still kept as a memento of that sad night. Many who were carried away captive, after enduring many trials and hardships, afterwards returned and began anew the settlement of the place. Among these was the pastor, Mr. Williams, who was one of the most learned men of those days; and of his numerous descendants some

still remain in Deerfield, while others are scattered over New-England. The Hon. Charles K. Williams, one of the Supreme Judges of Vermont is one of them; and his immediate progenitor, Samuel Williams, L. L. D., the grandson of the worthy pastor whose name we have already introduced, has contributed largely to the early literature of the country. To his History of Vermont is the writer of this sketch indebted for some of the facts here related. The wife of the old pastor was killed on her way to Canada. One of the daughters, we believe, married an Indian husband while in captivity, and some of her Indian descendants occasionally take a pilgrim to Deerfield with as much superstitious veneration as the Islamites pay their devoirs to the tomb and minarets of Mecca. Yours, &c., M. B.

Agriculture and Horticulture in Japan.

To the farmers of this part of the world some account of the Agriculture and Horticulture of those who live on the opposite side of the globe, may be interesting.

The soil of Japan is not remarkably fertile. It is chiefly clay and sand, but the immense population of the Island has rendered particular attention to Agriculture absolutely necessary for their subsistence. There is probably no country so highly cultivated, but owing to that jealousy of foreigners so common among the eastern nations, we are able to obtain only a slight knowledge of their methods of culture.

The spade and the hoe are the implements chiefly used in loosening the soil, though the plough is sometimes employed.

There are no sheep, and but few horses, cows, or oxen upon the Island, and these cattle are not used for food, but for labor only. The islanders do not use milk.

The country is so generally cultivated that the hills and mountains, almost to their summits, show that the husbandman makes the most of his soil. There are no meadows, and few fences, as the number of cattle is so small that they are kept all the year in yards: and on this account, the manure is made up of every thing which will form it. The refuse of houses and ordure of every description, are collected together wherever it is convenient; consequently the atmosphere is disagreeable and unhealthy. This manure is carried in pails in a liquid state, and poured upon the plants. To each crop of corn it is twice applied.

The Japanese are indefatigable weeders; and naturalists, in search of plants, have complained that they could not find so much as a weed in whole provinces.

Wheat is sown in November, and is ripe in June. It is sown in beds about a foot wide, and the same distance apart. Barley is sown in the same manner as wheat, but in October or November, and is ripe in May. The corn is sown either the length of the bed, in two drills, or across it, in rows. When it is from eight to twelve inches high, the earth is taken from the space between the beds, and put between the rows of corn. Buckwheat is also cultivated. Of this small cakes are made which are boiled and colored; these are sold in the villages to travelers very cheap. Peas, Beans, Turneps, Carrots, Radishes, Potatoes, Melons, Pumpkins, Cucumbers, Calabashes, Mushrooms, Red Beet, Fennel, Dill, Anise, Parsley, Asparagus, Endive, Lettuce, Black Radish, Onions, Leeks, and many other vegetables and plants, are cultivated. Great pains are taken with the culture of Rice. This is sown in April and is ripe in November. Of it straw hats and shoes are made; the latter are very uncomfortable in wet and muddy weather, and are frequently worn out in a day.

The cotton and Tea plants are cultivated; also the Camphor tree, the Varnish tree, the Cedar tree, and the Mulberry, for silk worms.

There are many kinds of the fruit trees and shrubs, which grow wild, cultivated in the gardens, such as Pear, Plum, China, and Seville Orange, Shadock, Medlay, Cherry, Chestnut, Walnut, Fig, Grapes, and Pomegranitas.

The Japanese are very fond of flowers, and take much pains in cultivating them. Like the Chinese they are also fond of double flowers. They plant dwarf trees in flower pots, with pumice or other porous stone, instead of earth. Among the flowers cultivated by them are the *Aucuba Japonica*, *Chrysanthemum*, *Indicum*, *Magnoliæ*, *Aster*, *Chinænsis*, *Pæonia Officinalis*, and a great variety of others.

The Japanese are exceedingly ingenious in their agricultural operations, and there is no doubt, that if foreigners were not so carefully excluded, much valuable information might be obtained from them.—*Mechanic & Farmer.*

Mr. M'Lean, of Freehold, N. J., fed over 100,000 silk worms, on the leaves of the Multicaulis, of this year's growth, and met with complete success. Mr. M'Lean told us that he did not know that he lost a single worm. He has promised us the result of his experience and labor for publication. He is one of the pillars of the enterprise. --*American Silk Grower.*

From the Yankee Farmer.

Canada Thistles.

Mr. Editor—Observing in the Yankee Farmer of July 14th, a method prescribed for the destruction of Canada Thistles, I am desirous to inform farmers how I kill them. Above thirty years ago I purchased a piece of land, a part of which was stocked down with clover and timothy, which I kept for mowing several years in succession. At the first mowing I found a part of it, a piece nearly round and about four or five rods in diameter, so loaded with thistle that scarcely any grass could be seen among them. I mowed the whole, and secured the hay upon the other part of the lot, and spread the thistles, thinking to dry and burn them to get them out of the way, there being an immense burden of them. But being informed that cattle would eat them after they had become wilted, I cured them like hay, putting them in heaps for the night and spreading them for the sun and air to dry by day, till the stalks became considerably limber by wilting, when they were put upon a corner of a scaffold by themselves in the barn, and a little salt sprinkled among them. The next winter they were eaten without waste, both cattle and horses eating them as greedily as any hay whatever.

When these thistles were mowed, they were full in the blow, and the ripest blossoms had begun to turn brown with ripeness. As soon as these thistles were removed the grass grew luxuriantly among the roots of the thistles. The next year very few thistles were to be seen where these grew; and the third year none, and none afterwards. I have repeatedly mowed patches of thistles since, observing to mow them in the same state of ripeness as those first mowed, as here related, with uniform success in their destruction. I believe the reason why every thistle is not killed by once mowing, is, that some few stalks are less ripe, and, of course, are not hollow in the centre, so as to receive the rain and moisture which rots and destroys the root.

Some years after this first experiment, I was in company with several gentlemen, and mention was made of the spreading of these thistles about the country, and their becoming injurious to the farming interest; when one of the company, a man of much correct observation, but accustomed to extravagance of expression, said "there was no trouble at all in killing them, for only let them know that they were good for something and they would die of their own accord." I learned from this gentlemen that his experience upon this subject was very similar to mine, and the rssult the same. A Vermont Farmer.

The Wealth of a Country depends upon the Farmers and Mechanics.

What is wealth? Those things which are convenient and necessary to use, and which administer to our wants and our comforts. Money alone, cannot therefore, be considered as wealth, because if the articles or things above mentioned are not to be had, or are not in existence, a man would be poor indeed, though he were loaded with gold and silver. If he were hungry and there was no bread to be bought, if he were shivering with cold and there were no garments made for sale, his gold would be but of little service. It is true, mankind, by a common consent, have agreed that gold and silver should be the sign or evidence of property,—or in other words, the *measure* of property; and he who has a certain amount of it, has evidence of so much wealth. He can exchange it for the very things or articles which do in fact constitute wealth.

Thus a man who has a hundred dollars in his pocket, has the *ticket*, as it were, to entitle him to *enter* into the possession of an hundred bushels of corn, or a hundred yards of cloth, or a hundred acres of wild land,—or a yoke of oxen, or a horse and wagon, as the case may be. But if these things do not exist, and he needs them, his *ticket* is of no more use, than if he had a ticket to go into a theatre, and it should have been burned down before he used it. The elements therefore of wealth consists in natural productions, brought together, changed and modified by the skill and labor of man; of the Farmer and Mechanic. Commerce, though necessary and honorable, is nothing more than the *moving* or *changing* of these productions from place to place. It has always appeared singular to us, that merchants should consider themselves, as too many, far too many of them do, above the farmers or the mechanics, merely on account of their profession, when they are indeed only the *teamsters*, to the others. They are the agents to transport their productions hither and thither, as calls may exist for them. But to return to the subject. If we are right in the position which we have taken, that wealth consists in natural productions changed and wrought upon by the labor of man, it follows that the country which possesses the most of the elements or materials to work upon, such as good soil—abundance of water power—forests of timber—quarries of different kinds of stones, mines, and beds of different kinds of minerals, &c. &c., must have the most natural wealth. It then only requires the hand of industry and skill to put these materials into shape, and to put them together to form real substantial wealth. This is the duty of the farmer and mechanic. They are the second creators of wealth. They take the raw material as it came from the hands of the Almighty, and change it by their labor into the thousands and tens of thousands of different forms which render it useful to man, which make it subservient to the wants and comforts of human life. The more industrious and skilful this class is, the more wealth will be accumulted in the country. Do farmers and mechanics consider these things rightly? Are they not too apt to think themselves as mere plodders and servants, rather than as second to the Great First Cause in the production and increase of wealth? And indeed is there not a false standard of respectability too much in use in society, and are not the productive classes apt to measure themselves by it? This standard appears to be *idleness and a fine coat;* and consequently, the more idle a man can be, and the finer the dress, the more of a gentleman. Not so.—Respectability should consist in an improved mind, and skilful and industrious hands. Moral qualifications being equal, he should have the most honor, who, by the combination of the efforts of his mind and physical powers, has contributed most largely to the increase of those things which constitute wealth.

Such an one has done more for the amelioration of society, than a thousand unproductive *dandies*, who loll in the shade and wash in Cologne. And society should bestow upon such a correspoding meed of honor.—*Maine Far.*

BOTANY.---Its study.

The admirable system of Botanical classification founded by the immortal Linneus, forms a beautiful example of classical arrangement, and is happily adapted to convince us of the great and fruitful advantages of well established system, and to teach us the absolute necessity of regular order in the prosecution of all of our pursuits, if we wish to excel in them. In our studies, in our thoughts, and indeed in all of our ordinary occupations, it is of essential consequence that we establish judicious rules to control our feelings, to direct our conduct, and to aid all of our operations. By such policy, we can do much more in the same time, and that too, without being in continnal haste.

Another important consideration in connection with this subject is, that the habit of close examination, and accurate discrimination, necessary to distinguish the classes, orders, genera and species of plants, improves the student in these very useful exercises of the mind, and the habit of scrutinizing penetration thus acquired, will continue with him and contribute very much to his rapid advancement in the attainment of any other branch in human science; and also, contribute largely to his success, and consequent usefulness and enjoyment in the prosecution of his ordinary occupation. Again, Botany exceeds many other branches of natural science in the beauty, diversity, and highly interesting character of the objects which it presents for our investigation. It is delightful to view with a scientific eye, the fragrant rose, the delicate hyacinth, the modest violet, and all other beauteous productions that adorn the Prairies and the woods, the Garden and the Green house,—that clothe the mountains in their motley mantles and carpet the pasture, the meadow, and the lawn. How pleasing to the mind, how cheering to the heart, how invigorating to the health, to stroll in botanical excursions to search the luxuriant groves, to climb the rugged hills, or to follow the meandering rivulet, in order to collect the desired specimens.

Indeed, much might be said by way of encouraging the young to prosecute with lively energy, the study under contemplation. But the fact that its study has of late become common in most of our institutions devoted to the advancement of science and literature, particularly in all medical schools and female seminaries; and also that it is the favorite employment of many eminent men devoted to the advancement of human knowledge, render it unnecessary, that any thing further should be exhibited, illustrative of its beauties as a polishing and fashionable science,—its usefulness as exercise for, and improvement to the mind,—or its praduciive agency in the improvement of Medical Science.—*Wisconsin Culturist.*

Bees are among the most profitable appendages to a farm-house or any other sort of house. They toil with unremitting industry, asking nothing but a full sweep of the wing and no monopoly. Every man, whether in town or country, can keep bees to decided advantage. Dr. Smith of Boston has an Apiary on his house-top, from whence his little winged laborers traverse the air eight or ten miles in search of food. What a delicious banquet they afford, from the rich nectar gathered. Nothing like pure honey in the comb, except, as the ancients used to say, the "dew distilled from maiden lips." Its golden hue, unctious consistency, and the way in which it elaborates itself over a fasticious palate, how delicious! Strange it is, that any man possessing a homestead can forego the pleasures of a bee-hive. Not merely the sweets it affords to sour dispositions and acrid tempers, but the pattern to diligence they exhibit, is worth not a little as a stimulus to all to be frugal and industrious. Let every one keep a bee-hive.—*Northampton Courier.*

Improvement of a Poor Field.

A correspondent who signs himself "A Young Farmer," says:

I have on my estate an old worn out field that has been turned out for about seven years, because it would not repay the expense of cultivation. I desire to reclaim it with a view of putting it in clover; but owing to the scantiness of my supply of barn yard and stable manure, am not able to spare enough to give it heart, without robbing my other and more profitable fields. I have lime within 2½ miles of me, which I could procure in the stone at a moderate cost; have plenty of wood. Now would it by worth the expense and trouble to lime such a field as I have described? If so, what would be the cheapest process to follow."

In reply to our correspondent we have to observe, that we have no hesitation in saying, that we do believe his "*old field*" would be worth the "trouble and expense" of improvement; and, that, notwithstanding his scanty supply of "farm yard and stable manure," he has another resource which will prove effective in bringing about its melioration. There is no doubt that the buckwheat will grow on it, and, therefore, we advise him to plough his old field up forthwith, and sow it in that grain at the rate of three or four pecks to the acre. As soon as the buckwheat is in blossom, roll it, plough it in, and top dress the field at the rate of 50 bushels of lime to the acre.—Let the lime remain undisturbed through the winter, and as soon as the frost is out of the ground in the spring, sow the field in oats, which should be harrowed in deeply;—then sow 12 lbs. of clover seed to the acre, or indeed 16 lbs. would not be too much; brush harrow that in;—let the field remain two years in clover, roll down and plough in the second year, and he may, we have no doubt, put his field down in wheat, or any thing else, with certainty of reaping a good crop. The oats when fairly up should be plastered.

By following the above plan, our correspondent will perceive, he will only loose the crop of buckwheat, which will certainly be less loss to him than the cost of stable or barn-yard manure would be, and as to the expense of *lime*, that should not be taken into the account, as from its permanent character its cost will bear subdivision for many years.

Indeed, it is our honest opinion, that the improvement of worn-out lands should only be attempted where *lime*, *ashes*, or *marl*, forms the main ingredient relied on; for all other agents of melioration, are of so temporary a character in their effects, as not to be worth the "trouble and expense."—*Baltimore Farmer & Gardener.*

We are indebted to Wm. Kenrick, Esq., of Newton, Mass., who recently made us a visit, for some information concerning the mulberry prospects at the North and East. He informed us that his trees had prospered finely, and that he should have 100,000. On his way hither he called at the nursery of William Prince and Sons, on Long Island, and said that those gentlemen planted six acres of cuttings and three acres of trees. The trees had done well, but the cuttings had failed, or nearly so, as had all the cuttings that were planted on the Island. He thought, however, that Prince & Sons might have 100,000, but not more. Why wi l gentlemen advertise ten times as many trees as they have growing? Will it not deceive and injure individuals and the public?—*American Silk Grower.*

Splendid Short Horned Durham Bull for Sale at Auction.

ON Thursday next, the 27th September, in front of the Court House by L. W. Sibley auctioneer, the splendid Improved Durham Short Horned Bull, Invincible, will be sold to the highest bidder.

Farmers and Breeders will do well to attend this sale, and not loose an opportunity which is seldom offered.

Invincible is said by judges to be one of the finest animals ever imported into this country, and can be seen by applying at the Eagle Tavern.

Rochester, September 22d., 1838.

A Farm for Sale.

THE subscriber, offers for sale a farm, containing one hundred and sixty-six acres of choice land. One hundred and twenty-five under improvement, and the most of it first rate grain land, situated at Hanover centre, in the county of Chautauque, two miles from Silver Creek Harbor, three from La Grange, four from Irving Harbor, and four from Farrestville.

There are upon the premises, two dwelling houses, one of them a large two story building, with commodious out buildings, orcharding, &c.

This farm is pleasantly situated, the soil of a superior quality, and is considered by competent judges, one of the most desirable farms in the county.

For terms, apply to David Seymour, on the premises, or to the subscriber at Lodi, Erie county.

JOSEFH PLUMB.

September 15th, 1838.–w8m2

Sale of Impoved New Leicester Sheep.

40 EWES and RAMS of this celebrated breed will be *Sold by Auction* at the old Norton Farm, East Bloomfield, 5 miles west of Canandaigua, Ontario Co. N. Y., on Wednesday, the 17th of October next; some of which are of those imported in 1834, and the remainder from the said stock breed upon the farm of their present owner: by whom the former were selected from the flocks of the most ancient breeders in England. They will be sold without reserve, either singly or in such lots as purchasers may wish. Liberal credit will be given on approved notes or good security.

September 1, 1838. THOMAS WEDDLE.

SHEEP.

FOR SALE, at a bargain, to close a concern, a small flock of pure old fashioned Merino Ewes; also, a few pure Bakewell Ewes, and a mixed flock of South Down, Merino, and Bakewell.

Buffalo, Sept. 1, 1838.–w4m1 A. B. ALLEN.

SAXONY SHEEP FOR SALE.

40 RAMS & 60 Ewes of the pure Electoral Saxon Race. The subscriber imported 100 yearling Ewes and a number of Rams in 1827 which were selected by himself from the purest race in Saxony, and with which he commenced his flock, and not only mantained them in all their purity of blood, but improved them in size, symmetry of form, and quantity and quality of wool. The above number of Ewes will either be sold or let for a term of years, and can be increased to 75 or 80 if desired.

H. D. GROVE,

Buskirks Bridge Post Office, Washington Co. N.Y.

August 25, 1838–3m*

SUGAR BEET SEED.

THE Subscriber has now for sale 800 lbs. of the White French Sugar Beet Seed of the present years growth. Great pains have been taken in its cultivation, and the seed will be warranted equally as good, if not better than the imported. A quantity of the seed was put in the ground since they ripened, and every one germinated and grew. Those wishing to purchase are requested to forward their orders previous to the close of navigation. All communications on the subject, and of raising the beet, will be promptly attended to. Address the subscriber, as Post Master, Royalton, Niagara county, N.Y

SHERMAN M'LEAN.

September, 1, 1838.–w3m1

MULBERRY TREES.

200,000 GENUINE Mulberry Trees, and as many more as may be wanted, of the most approved kinds—consisting of the best selected varieties now in use for cultivation, feeding worms, and making silk; being acclimated to this country, and adapted to either warm or cold climates, affording a rare opportunity for Companies or individuals to be supplied, from the most extensive collection of Mulberry trees ever seen in any village within the United States.

Autumn is decidedly the best time for removal, and orders left with

Messrs. I. B. Colt, Sec'y of the Connecticut Silk Manufacturing Company, Hartford; Alonzo Wakeman, at the office of the American Institute, No. 187 Broadway, N.Y.; Thomas Lloyd, Jr. No. 236 Filbert street, Philadelphia, Pa.; Luther I. Cox, Baltimore, Md.; B. Snider & Co. Savannah, Ga; Bliss, Jenkins & Co. Mobile, Al.; James Lyman, St. Louis, Mo.; Case & Judd, Columbus-O.; G. Harwood, Rochester, N.Y.; and the publishers of this advertisement, or with the subscriber, in Northamp, ton, Mass.

Orders left with the above gentlemen will be promptly attended to, and each will be furnished with samples of the foliage.

Several valuable farms may be had with or without Mulberry Plantations. Apply at the office of

D. STEBBINS.

Notrhampton, Sept. 1, 1838.–10t*

Silk Business.

PERSONS who intend doing an extensive business next year with the Mulberries, can be supplied with the *true genuine Morus multicaulis* trees and cuttings, by sending in their orders early. Companies that wish to contract for large quantities, can be supplied on reasonable terms. The trees are to be well packed, so as to be sent to any part of the United States, and delivered this fall. The subscriber has been extensively engaged in the culture of silk for some years, particularly to the production of the Morus multicaulis; and will be hapyy to give any information respecting the tree or feeding the worm that may be required—silk, worm eggs, &c.

All letters will meet with immediate attention if assigned to EDWARD H. ARNOLD.

Burlington, New Jersey.

N. B. As orders are coming in now, it would be well for those in want to apply early. Aug. 1838.–3m*

Stones Wanted.

A Liberal price will be paid forPeachand Plum stones delivered soon at the Rochester Seed Store.

sep15 REYNOLDS & BATEHAM.

New Arrival of Turnep Seeds.

WE have just received from England a large additiona supply of TURNEP SEEDS, among which are the following kinds:

Ruta Baga, or Yellow Swedish,
Dale's Yellow Hybrid,
Yellow Bullock, Yellow Scotch,
Yellow Aberdeen, Red Round,
White Globe or Flat,
White Norfolk, Long Tankard,
Early White Flat Dutch,
White Stone, Yellow Stone,
Yellow Malta, Yellow Dutch.

☞ See descriptive list on page 198, current vol. Genesee Farmer. REYNOLDS & BATEHAM.

Rochester Seed Store, June 23, 1838.

Farmers' Books.

NOTICES on the Sugar Beet, containing a description of the culture and preservation of the plant; also explanations of the process of extracting its Sugar. Price 25 cts.

A Manual of the art of making and refining sugar from Beets. Price 75 cents.

Cobb's Manual on the Culture of Silk.
Chaptal's Agricultural Chemistry.
The Complete Farmer, by Fessenden.
Fessenden's American Gardener.
A Guide to Orchardists.
Smith's Treatise on the Honey Bee.
A Treatise on Cattle.
Mason's Farriery.
Barnum's American Farriery.
Vols. 1st and 4th, Genesee Farmer, bound.

For sale by D. HOYT,

Rochester, May 26, 1838. Bookseller, 6 State st.

Fruit Trees for Sale.

THE subscriber respectfully informs his friends and the public, that he has for sale at his Nursery in Rochester, Monroe county, state of New-York, a large quantity of Fruit Trees, grafted and inoculated with the most approved kinds, now fit for transplanting, which he will sell on the most reasonable terms. SAMUEL MOULSON.

April 15, 1838.

N. B. CASH will be paid for a few thousand two years old APPLE TREES.

Monroe Horticultural Garden & Nurseries, Greece, Monroe County, N. Y.

THIS establishment now comprises over 20 acres, covered compactly with Trees and Plants in the different stages of their growth.

The subscriber offers to the public a choice selection of Fruit Trees, of French, German, English and American varieties, consisting of Apples, Pears, Plums, Peaches, Cherries, Apricots, Nectarines, Quinces, Currants, Gooseberries, Raspberries, Grape Vines, Strawberries, Ornamental Trees, Shrubs, Plants, Hardy Roses, Vines, Creepers, Herbaceous Perennial Plants, Bulbous Roots, Splendid Pæonies, Double Dahlias, &c. &c.

Also, a large collection of Green-House Plants, of choice and select varieties, in good condition.

Orders respectfully solicited. Trees and Plants, when ordered, are carefully selected and faithfully packed, and if desired, delivered on the Canal, one mile from the Nursery, or at Rochester.

Orders for Mr. Rowe's Nursery received by the publisher of this paper.

Catalogues will be sent to every applicant, gratis, or may be had by calling at the office of the Genesee Farmer.

April 1, 1838. ASA ROWE.

Seed Buckwheat,

A GOOD clean article for sale low by

June 23. REYNOLDS & BATEHAM.

ELECTION NOTICE.—*Sheriff's Office, Monroe County, Rochester, July 19th*, 1838.—A general election is to be held in the county of Monroe, on the 5th, 6th and 7th days of November next, at which will be chosen the officers mentioned in the notice from the Secretary of State, of which a copy is annexed.

DARIUS PERRIN, *Sheriff.*

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State of New-York, Secretary's Office, Albany, July 16th, 1838.—SIR: I hereby give you notice, that at the next General Election in this State, to be held on the 5th, 6th and 7th days of November next, a Governor and Lieutenant Governor are to be elected.

I also give you notice, that a Senator is to be chosen in the Eighth Senate District, in the place of Isaac Lacy, whose term of office will expire on the last day of December. JOHN A DIX, *Secretary of State.*

To the Sheriff of Monroe county.

N. B. The Inspectors of Election in the several towns in your county, will give notice of the Election of a Representative to Congress from tho 28th Congressional District. They will also give notice of the Election of Members of Assembly, and for filling any vacancies in count. officers which may exist. July 28, 1838